Monday, May 12, 2025	09:30 AM to 10:30 AM			Location
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Mo Hu (Texas A&M University)	09:30 AM to 09:45 AM	193	Revisit the Generation Framework in Generative AI-Based Intelligent Structural Design Zhili He (HKUST) ; Jian Zhang (Southeast University); Yu-Hsing Wang (The Hong Kong University of Science and Technology)	Pelican 1
	09:45 AM to 10:00 AM	419	Excavator Pose Estimation from Synthetic Point Clouds: a Zero-Shot Generalization Approach Mingyu Zhang (Hong Kong Polytechnic University); Yushu Yang (Hong Kong Polytechnic University); Shuai HAN (Hong Kong Polytechnic University) ; Heng Li (Hong Kong Polytechnic University); Hongzhe Yue (Southeast University)	
	10:00 AM to 10:15 AM	276	Integrating Neurocognitive Signals and Machine Learning for Trust Prediction in Human- AI Collaborative Design Yiyang Shu (Texas A&M University) ; Mo Hu (Texas A&M University)	
	10:15 AM to 10:30 AM	285	Towards Safer Construction Sites: A Preliminary Study on a Vision-Based Cyber-Physical System for Automated Hazard Detection Dong Zheng (Syracuse University); Yizhi Liu (Syracuse University) ; Houtan Jebelli (University of Illinois Urbana-Champaign)	
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Md Nazmus Sakib (University of Texas at Arlington)	09:30 AM to 09:45 AM	52	Organizational Framework for Facility Management Information Definition and Delivery Process Alissa Cooperman (Stanford University); Niels Bartels (TH Köln)	Pelican 2
	09:45 AM to 10:00 AM	218	From Sketch to BIM: A Framework for Automating the Conversion of Hand-Drawn Plans into 3D Models Using MLLMs and 3D Modeling Software Abir Khan Ratul (University of Texas at Arlington); Sanjay Acharjee (University of Texas at Arlington); Somin Park (University of Texas at Arlington); Md Nazmus Sakib (University of Texas at Arlington)	
	10:00 AM to 10:15 AM	6	Indoor Thermal Comfort Assessment Using BIM-IoT Integration in a Web-based Visualization Platform Fahad Iqbal (College of Environmental Science and Forestry, State University of New York); Shayan Mirzabeigi (College of Environmental Science and Forestry, State University of New York)	
	10:15 AM to 10:30 AM	206	Geospatial Semantics-based Mapping of Digital Twin-Based Controls for Scalable Management of Targeted Fan-Assisted Cooling System Iqbal Shah (National University of Singapore); Ali Ghahramani (National University of Singapore)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Hyosoo Moon (North Carolina A&T State University)	09:30 AM to 09:45 AM	351	Optimizing Building Energy Efficiency: Climate-Specific Performance of Phase Change Thermal Storage Foam Concrete Sadia Jahan Noor (North Carolina A&T State University) ; Hyosoo Moon (North Carolina A&T State University); Raymond Tesiero (North Carolina A&T State University); Seyedali Mirmotalebi (North Carolina A&T State University)	Poydras
	09:45 AM to 10:00 AM	296	Assessing Infrastructure Vulnerability, Accessibility, and Resilience: Evaluating Transportation and Healthcare Networks During and After 2019 Midwest Flood Disaster in Douglas County, Nebraska S. Yasaman Ahmadi (University of Nebraska-Lincoln (UNL)) ; Afshin Hatami (Mississippi State University); Jennifer Lather (University of Nebraska-Lincoln)	
	10:00 AM to 10:15 AM	62	Analyzing Inflation Transmission in Construction Labor Wages through Econometrics-Based Network Modeling Bahaa Chammout (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	10:15 AM to 10:30 AM	91	A Human-AI Integrated Framework for Resilience Modeling of Urban Infrastructure Under Extreme Conditions Zijie Liang (Carnegie Mellon University); Pengkun Liu (Carnegie Mellon University); Jinfeng Lou (Carnegie Mellon University); Pingbo Tang (Carnegie Mellon University)	
Track 7: Health and Safety Technologies Session Chair: Dr. Arup Bhattacharya (Louisiana State University)	09:30 AM to 09:45 AM	162	Feasibility of an Eye-Tracking and EEG-based Neuroergonomic Framework to Identify Cognitive Hazards in Heavy Equipment Operation Mohammadsadegh Shahrokhishahraki (University of Alberta); Meesung Lee (University of Alberta); Vicente Gonzalez-Moret (University of Alberta); Seyed Nizam Ahmed (University of Alberta); Gaang Lee (University of Alberta)	Acadian
	09:45 AM to 10:00 AM	307	Understanding Contributing Factors to Pedestrian related Crashes of Massachusetts Using Factor Map Analysis Tilak Barua (University of Nevada, Las Vegas); Niloy Das (University of Nevada, Las Vegas); Jee Woong Park (University of Nevada Las Vegas)	
	10:00 AM to 10:15 AM	87	Prompt Engineering in Construction Safety: A Comparative Study of Zero-Shot, One-Shot, and Few-Shot Strategies for Accident Classification Unmesa Ray (University of Nevada Las Vegas); jee park (University of Nevada Las Vegas) ; Laura Alvarez (University of Nevada Las Vegas); Namgyun Kim (Texas A&M University)	
	10:15 AM to 10:30 AM	108	Stability Assessment during Active Back-Support Exoskeleton-Use: Pressure-Time Integral Analysis Abosede Akanmu (Virginia Tech) ; Ashtarout Ammar (Virginia Tech); Houtan Jebelli (University of Illinois Urbana-Champaign); Akinwale Okunola (Virginia Tech)	

Monday, May 12, 2025	11:00 AM to 12:30 PM			Location
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Ricardo Eiris (Arizona State University)	11:00 AM to 11:15 AM	36	Enhancing Construction Site Digital Twins with Language Embedded Radiance Fields Jiashu Hu (Purdue University); Jinwu Xiao (Purdue University); Rishita Lingannagari (Purdue University); Sandra Anto v Vazhappilly (Purdue University); Sri Harshini Chowdary Muppaneni (Purdue University); Kyubyung Kang (Purdue University); Clark A Cory (Purdue University)	Pelican 1
	11:15 AM to 11:30 AM	107	Applying Retrieval-Augmented Generation to Construction Contract Risk Analysis Bing Shuai (The University of Texas at Austin) ; Carlos Caldas (The University of Texas at Austin)	
	11:30 AM to 11:45 AM	131	Assessing the Impact of Exoskeleton Systems on Worker Trust During Repetitive Construction Tasks: A Trust Detection Framework Integrating Physiological Signals and Artificial Intelligence Amit Ojha (UIUC); Yogesh Gautam (UIUC); Houtan Jebelli (UIUC) ; Abiola Akanmu (Virginia Tech)	
	11:45 AM to 12:00 PM	293	Benefits and Challenges: Using Language Models in Crash Narratives including Ambiguous Statements Niloy Das (University of Nevada, Las Vegas); Jee Woong Park (University of Nevada Las Vegas) ; Tilak Barua (University of Nevada, Las Vegas)	
	12:00 PM to 12:15 PM	30	Exploring Synthetic Dataset Generation for Improving Computer Vision System Performance in Hydropower Turbine Facility Chialing Wei (Arizona State University) ; Mohit Gupta (Arizona State University); Ricardo Eiris (Arizona State University); Thomas Czerniawski (Arizona State University)	
	12:15 PM to 12:30 PM	156	Automating Interior Design for Wheelchair Accessibility: A Case Study of a STEM Laboratory Jingyi Lai (Purdue University) ; Jiansong Zhang (Purdue University); Bradley S. Duerstock (Purdue University); Nan Kong (Purdue University)	
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Mudan Wang (University of Cambridge)	11:00 AM to 11:15 AM	84	Using BIM Collaborative Technology and Cloud-Based Data Environments as Information Technology (IT) Infrastructure and Digital Strategies for Remote Work in The Construction Industry Ghiwa Assaf (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Sara Fayek (Stantec); Mohamad Awada (NYU)	Pelican 2
	11:15 AM to 11:30 AM	365	Large Language Model-Driven Full Lifecycle Architectural Design: A BIM-Based Workflow and Prototype for Apartment Buildings John Xianfeng Jiang (Columbia University)	
	11:30 AM to 11:45 AM	175	A Design Information Extraction Method for Architectural Drawings to Support Automated Building Code Compliance Checking Fan Yang (Purdue University) ; Jiansong Zhang (Purdue University); Hazar Nicholas Dib (Purdue University)	
	11:45 AM to 12:00 PM	157	Digital Twin-Based HVAC Model Generation Using Point Cloud and Image Data for Building Retrofitting MUDAN WANG (University of Cambridge) ; Anson, T.K. Chan (University of Cambridge); Ya Wen (University of Cambridge); Guangming Wang (University of Cambridge); Linjun Lu (University of Cambridge); Ioannis Brilakis (University of Cambridge)	
	12:00 PM to 12:15 PM	197	Data-Driven Design and Lifecycle Management Using Digital Threads and Digital Twins Raja Issa (University of Florida) ; Isabelle Southern (University of Florida)	
	12:15 PM to 12:30 PM	161	Developing a Taxonomy of Spatial Information for Augmented Reality Training: Design Strategies to Enhance Procedural Activity Performance Xiaohui Wang (Penn State University) ; John MESSNER (Penn State University); Robert LEICHT (Penn State University)	
Track 3: Reality Capturing, Visualization Techniques, and Simulation Session Chair: Dr. Arup Bhattacharya (Louisiana State University)	11:00 AM to 11:15 AM	128	Evaluating the Impact of Fog on 3D Digital Twinning and Semantic Segmentation: A Synthetic Fog Modeling Approach Salar Kamari (University of Southern Mississippi) ; Jaeyoon Kim (University of Texas at El Paso)	Acadian
	11:15 AM to 11:30 AM	126	Wind-Induced Motion Blur and 3D Digital Twinning: Challenges in UAV Visual Data Collection on Construction Sites Salar Kamari (University of Southern Mississippi) ; Jaeyoon Kim (University of Texas at El Paso)	
	11:30 AM to 11:45 AM	203	A Novel Framework for Generating Realistic and Semantic Digital Model of Reflective Glass Façades Using RefGlass-3DGS Zhenyu LIANG (The Hong Kong University of Science and Technology) ; Xiao ZHANG (The Hong Kong University of Science and Technology); Zhaolun LIANG (The Hong Kong University of Science and Technology); Boyu WANG (The Hong Kong University of Science and Technology); Mingzhu WANG (City University of Hong Kong); Jack CHENG (The Hong Kong University of Science and Technology)	
	11:45 AM to 12:00 PM	208	SfM Meets Thermal: Reconstructing 3D Thermal Profiles of Buildings using Multimodal Drone Data Sanjay Acharjee (University of Texas at Arlington); Abir Khan Ratul (University of Texas at Arlington); Ashrant Aryal (Texas A&M University); Md Nazmus Sakib (University of Texas at Arlington)	
	12:00 PM to 12:15 PM	145	3D Geometric Measurements of 3D Printed Concrete Via Structured Light Machine Vision Kasra Banijamali (Louisiana State University); Michael Martin (Louisiana State University); David Mascarenas (Los Alamos National Laboratory); Ali Kazemian (Louisiana State University)	
	12:15 PM to 12:30 PM	362	Generative Design for Masonry Structures through Real-time Interactive VR Simulation Rui Liu (Kent State University) ; Xiangxu Lin (Kent State University); Jong-Hoon Kim (Kent State University)	

Track 5: Human-Centered Innovations and Human-Technology Frontier Session Chair: Dr. Masoud Gheisari (University of Florida)	11:00 AM to 11:15 AM	102	Feasibility Study on Microstate Analysis to Enhance Generalizability in EEG Research of Construction Workers' Cognitive States Meesung Lee (University of Alberta); Mohammadsadegh Shahrokhishahraki (University of Alberta); Syed Nizam Ahmed (University of Alberta); Gaang Lee (University of Alberta)	Poydras
	11:15 AM to 11:30 AM	164	Towards Probabilistic Inference of Human Motor Intentions by Assistive Mobile Robots Controlled via a Brain-Computer Interface Xiaoshan Zhou (University of Michigan - Ann Arbor) ; Carol Menassa (University of Michigan - Ann Arbor); Vineet Kamat (University of Michigan - Ann Arbor)	
	11:30 AM to 11:45 AM	241	Human-Machine Collaboration with Reinforcement Learning for Explaining Manual Layup Strategies in Composite Materials Handling Tiantian Zhou (Carnegie Mellon University); Miaosi Dong (Carnegie Mellon Unviersity); Pingbo Tang (Carnegie Mellon University) ; Aslan Noorghasemi (Carnegie Mellon University); Christopher McComb (Carnegie Mellon University); Nikolas Martelaro (Carnegie Mellon University)	
	11:45 AM to 12:00 PM	272	Assessing Situational Awareness in Human-Autonomy Interaction Using Physiological Responses: A Privacy-Preserving Approach Wei Zhou (Purdue University); Woei-chyi Chang (Purdue); Sogand Hasanzadeh (Purdue University)	
	12:00 PM to 12:15 PM	220	Enhancing Human-Machine Collaboration to Reduce Production Waste in Customized Building Component Manufacturing Ruoxin Xiong (Kent State University); Miaosi Dong (Carnegie Mellon University); Haoming Jing (Carnegie Mellon University); Yorie Nakahira (Carnegie Mellon University); Pingbo Tang (Carnegie Mellon University)	
	12:15 PM to 12:30 PM	243	Usability Study of VirtuAI: Personalized Situated Learning Through Integrating VR and LLMs Ali Katooziani (university of florida) ; Rohantha Rukshan Jayasinghe (university of florida); David Allen (university of florida); Masoud Gheisari (university of florida); Gabriel Castelblanco (university of florida); Idris Jeelani (University of Florida)	
Monday, May 12, 2025	**02:00 PM to 3:30 PM**			**Location**
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Afshin Hatami (Mississippi State University)	02:00 PM to 02:15 PM	267	Leveraging Large Language Models and Deep Learning for Construction Work Zone Intrusion Risk Assessment Amirhossein Ghadiri (Purdue University); Woei-Chyi Chang (Purdue University); Sogand Hasanzadeh (Purdue University)	Pelican 1
	02:15 PM to 02:30 PM	215	Data-Driven Insights into Bridge Deck Condition Dynamics Using Cluster Analysis of National Bridge Inventory Data Mahdi Ghafoori (Mississippi State University) ; Mirsalar Kamari (University of Southern Mississippi); Afshin Hatami (Mississippi State University)	
	02:30 PM to 02:45 PM	89	Enhancing Real-Time Safety Monitoring: The Critical Role of Hyperparameter Tuning in Machine Learning with Missing Data Laura Alvarez (University of Nevada, Las Vegas); Unmesa Ray (University of Nevada, Las Vegas); Jee Woong Park (University of Nevada Las Vegas)	
	02:45 PM to 03:00 PM	172	Deep Learning-Based Unsupervised Domain-Adaptive Method for Corrosion Segmentation from Real-World Images Shengyi Wang (University of Illinois at Urbana Champaign) ; Nora El-Gohary (University of Illinois at Urbana Champaign)	
	03:00 PM to 03:15 PM	25	Exploring Domain-Specific AI Literacy in Construction: Insights from a Focus Group Study Jiun-Yao Cheng (University of Florida) ; Masoud Gheisari (University of Florida); Idris Jeelani (University of Florida)	
	03:15 PM to 03:30 PM	348	Integrating Drone Imaging and Deep Learning with Augmented Reality for Disaster Damage Assessment and Response Sultan Al Shafian (Kennesaw State University); Da Hu (Kennesaw State University)	
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Lu Zhang (Virginia Tech)	02:00 PM to 02:15 PM	119	Estimating Mobilization Costs in Infrastructure Projects Using Regressive Machine Learning Algorithms Yasser Jezzini (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU); Shania Villalobos (NJIT)	Pelican 2
	02:15 PM to 02:30 PM	58	Understanding Structural Patterns in Private Participation in Infrastructure Projects using Topological Data Analysis Youssef Lotfy (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	02:30 PM to 02:45 PM	136	Reducing Gun-Related Incidents on Construction Sites: An AI-Driven Approach for Automated Detection of People, Tools, and Firearms Ammar Alzarrad (Marshall University) ; Shahid Ali (Marshall University); Sudipta Chowdhury (Marshall University); Husnu Narman (Marshall University)	
	02:45 PM to 03:00 PM	40	Leveraging Generative AI to Analyze Construction Industry Trends through Social Media Data Alexis Figueroa-Baltazar (Florida Gulf Coast University) ; Anh Chau (Florida Gulf Coast University)	
	03:00 PM to 03:15 PM	403	AI-Driven Prediction of Thermal Conductivity and Energy Consumption in a Building with 3D Printed Wall Sections Through Geometric and Topological Design Yasaman Norouzi (Texas A&M University) ; Manish K. Dixit (Texas A&M University); Ashrant Aryal (Texas A&M University)	
	03:15 PM to 03:30 PM	41	An LLM-Based Approach for Stakeholder Classification in Disaster Contexts Lihua Fu (Virginia Polytechnic Institute and State University); Lu Zhang (Virginia Polytechnic Institute and State University) ; Arif Sadri (University of Oklahoma)	

Track 5: Human-Centered Innovations and Human-Technology Frontier Session Chair: Dr. Hongrui Yu (Virginia Tech)	02:00 PM to 02:15 PM	115	Integrating Large Language Models (LLMs), IoT Wireless Sensor Networks, and Augmented Reality for Real-Time Indoor Environmental Quality Improvement and Automated HVAC Control in Smart Buildings Mohsen Mohammadi (Schnabel Engineering); Oscar Poudel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU); Assaf Assaf (Gedeon GRC Consulting)	Poydras
	02:15 PM to 02:30 PM	354	Human-Exoskeletons in Construction: Benefits, Challenges, and Applications through Systematic Review and NLP Analysis Hyosoo Moon (North Carolina A&T State University) ; Saadia Noor (North Carolina A&T State University); Yimesker Yihun (North Carolina A&T State University); Youjin Jang (North Dakota State University)	
	02:30 PM to 02:45 PM	363	Defect Detection and Quality Control in 3D-Printed Construction Elements using High-Resolution 3D Scanning and Deep Learning Models Seyedali Mirmotalebi (North Carolina A&T State University) ; Hyosoo Moon (North Carolina A&T State University); Raymond Tesiero (North Carolina A&T State University); Sadia Noor (North Carolina A&T State University)	
	02:45 PM to 03:00 PM	160	Analysis of Drone-Assisted Building Inspection Training in VR vs 2D Monitor Display: an EEG Study Pengkun Liu (Carnegie Mellon University); Jackson Greene (Western New England University); Jiali Huang (Western New England University); Pingbo Tang (Carnegie Mellon University); Yu Hou (Western New England University)	
	03:00 PM to 03:15 PM	251	Multimodal Human-Urban Robot Interaction Interface Using Large Language Models, Computer Vision and Virtual Reality Akash Reddy Mallepally (Virginia Polytechnic Institute and State University); Hongrui Yu (Virginia Polytechnic Institute and State University)	
	03:15 PM to 03:30 PM	235	Longitudinal Analysis of IEQ Variability in Office and Home Workspaces: Insights for the Future of Hybrid Work Mirmahdi Seyedrezaei (University of Southern California) ; Burcin Becerik-Gerber (University of Southern California); Mireya Reyes (University of Southern California); Shawn Roll (University of Southern California); Gale Lucas (University of Southern California); Shrikanth Narayanan (University of Southern California)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Aladdin Alwisy (University of Florida)	02:00 PM to 02:15 PM	24	ROSTA - RObotic Sequential Task Assignment Framework for Multi-Robot Collaboration in Dynamic and Uncertain Environments. Daksh Dave (Virginia Tech); Hongrui Yu (Virginia Tech)	Acadian
	02:15 PM to 02:30 PM	381	Interactive Construction Robots for Timber Truss Assembly via Vision-Language Model and Mark-Based Visual Prompting Lei Huang (Columbia University) ; Qingyu Yan (University of British Columbia); Zhengbo Zou (Columbia University)	
	02:30 PM to 02:45 PM	200	Framework for Leveraging Digital Twins and Cyber-Physical Production Systems in Robotic Assembly for Industrialized Construction Raja Issa (University of Florida) ; Ricardo Gallopp Ramirez (University of Florida); Aladdin Alwisy (University of Florida)	
	02:45 PM to 03:00 PM	5	Challenges and Opportunities in Perceiving Worker Intentions for Proactive Human-Robot Collaboration in Construction Zaolin Pan (The Hong Kong University of Science and Technology) ; Yantao Yu (The Hong Kong University of Science and Technology)	
	03:00 PM to 03:15 PM	396	Vision-Based Adaptive Robotics for Autonomous Surface Crack Repair Joshua Genova (University of Houston)	
	03:15 PM to 03:30 PM	339	Enhancing Collision Avoidance in Construction Robot Manipulation Using Trust Region Conditional Value at Risk Kangkang Duan (ubc) ; Zhengbo Zou (Columbia University)	
Tuesday, May 13, 2025	**09:00 AM to 10:30 AM**			**Location**
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Ivan Mutis (Illinois Institute of Technology)	09:00 AM to 09:15 AM	151	Is Construction Becoming Intelligent? Exploring the Sector's Readiness for Generative AI Hooman Sadeh (Utica University) ; Dimitar Todorov (Utica University); Min Jae Lee (Virginia Polytechnic Institute and State University); Farzad Shahbodaghlou (California State University, East Bay); Ruichuan Zhang (Virginia Polytechnic Institute and State University)	Pelican 1
	09:15 AM to 09:30 AM	92	A Data-Driven Approach to Identify Potential AI Chatbots for Electrical Construction Contractors Anh Chau (Florida Gulf Coast University) ; Shanley Mastin (Florida Gulf Coast University); Juanpablo Palmas (Florida Gulf Coast University); Anna Koufakou (Florida Gulf Coast University); Long Nguyen (Florida Gulf Coast University)	
	09:30 AM to 09:45 AM	37	Comparative Analysis of Machine Learning Models for Predicting Bridge Substructure Condition Ratings Hung Thach (Ho Chi Minh City Open University) ; Long Nguyen (Florida Gulf Coast University, USA); Viet Nguyen (Industrial University of Ho Chi Minh City)	
	09:45 AM to 10:00 AM	412	Cross-Modal Adaptation of Large Language Models for Building Energy Forecasting Yueyan Gu (Virginia Tech); Farrokh Jazizadeh (Virginia Tech)	
	10:00 AM to 10:15 AM	309	Vision Language Model-driven Multimodal Occlusion Analysis (VLM-MOA) Method for Construction Progress Monitoring YA WEN (University of Cambridge) ; Peihang Luo (University of Cambridge); Mudan Wang (University of Cambridge); Agata Muchla (Mostostal Warszawa SA); Lizhao Xiao (University of Hong Kong); Ioannis Brilakis (University of Cambridge)	
	10:15 AM to 10:30 AM	229	Exploring LRFD-Based Evolutionary Algorithms for Topology Optimization in Modular Steel Structures: A Generative Design Approach Nishanth Purushotham (Illinois Institute of Technology) ; Ivan Mutis (Illinois Institute of Technology)	

Track	Time	#	Title and Authors	Room
Track 3: Reality Capturing, Visualization Techniques, and Simulation Session Chair: Dr. Fei Dai (West Virginia University)	09:00 AM to 09:15 AM	231	Towards Robust 3D Segmentation in Construction: Tackling Raw and Incomplete Scans Seongyong Kim (Georgia Institute of Technology) ; Yong Cho (Georgia Institute of Technology)	Pelican 2
	09:15 AM to 09:30 AM	146	Neuromorphic Imaging for In-process Monitoring of Concrete 3D Printing David Mascarenas (Los Alamos National Laboratory) ; Andre Green (Los Alamos National Laboratory); Ali Kazemian (LSU)	
	09:30 AM to 09:45 AM	201	Streamlining Building Layout Replication for Thermal Performance Evaluation: A Semi-Automated Approach Juliet Nwagwu Ume-Ezeoke (Stanford University) ; Catherine Gorle (Stanford University); Rishee Jain (Stanford University)	
	09:45 AM to 10:00 AM	384	LightSplat: Leveraging Gaussian Splatting for illumination estimation in light audits Weijia Cai (Columbia University) ; Wun Ki Suen (Columbia University); Zhengbo Zou (Columbia University)	
	10:00 AM to 10:15 AM	114	Integration of Large Language Models (LLMs) and Augmented Reality (AR) to Enhance Human-Building Interaction During Building Operations and Maintenance Procedures Mohsen Mohammadi (Schnabel Engineering); Oscar Poudel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU); Ghiwa Assaf (Gedeon GRC Consulting)	
	10:15 AM to 10:30 AM	246	Evaluation of Drone-Induced Balance Loss of Roofers on Sloped Surfaces Mahfuza Maisha Mouri (West Virginia University) ; Wei Han (University of Wisconsin-Madison); Liqun Xu (University of Wisconsin-Madison); Zhenhua Zhu (University of Wisconsin-Madison); Wei-Yin Loh (University of Wisconsin-Madison); Fei Dai (West Virginia University)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Atefeh Mohammadpour (California State University, Sacramento)	09:00 AM to 09:15 AM	302	Electric School Buses: A Sustainable Power Source and Emergency Response Solution in California Atefeh Mohammadpour (CSUS) ; Amir Talakoob (CSUS); Atousa Yazdani (CSUS)	Poydras
	09:15 AM to 09:30 AM	252	A Data-Driven Approach for Spatial-Temporal Analysis of Travel-Related Activity Changes During Disasters Yang Liu (Stevens Institute of Tecnology) ; Kaijian Liu (Stevens Institute of Technology)	
	09:30 AM to 09:45 AM	154	Generating Disaster Damage Assessment Datasets with Physics-Based Simulations and Sensing Data Chih-Shen Cheng (The University of Texas at Austin) ; Tsung-Chin Hou (National Cheng Kung University); Fernanda Leite (The University of Texas at Austin)	
	09:45 AM to 10:00 AM	103	Survival Analysis for Pipeline Longevity and Maintenance Optimization Lemlem Asaye (North Dakota State University) ; Chau Le (University of North Carolina at Charlotte); Ying Huang (North Dakota State University); Trung Le (University of South Florida); Harun Pirim (North Dakota State University); Om Prakash Yadav (North Carolina Agricultural and Technical State University); Tuyen Le (Clemson University)	
	10:00 AM to 10:15 AM	295	PyRebuild: A Python-Based Simulator For the Dynamic Post-Earthquake Housing Reconstruction Problem Qianchen Yu (University of Florida) ; Irene Alisjahbana (Stanford University); Vivian Wong (University of Florida)	
	10:15 AM to 10:30 AM	255	Social Network Sentiment Analysis for Natural Disaster Response Da Hu (Kennesaw State University) ; Chao He (Kennesaw State University)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Ali Kazemian (Louisiana State University)	09:00 AM to 09:15 AM	10	Comparative Analysis for Robot-Assisted Construction Processes: Task Definition and Model Development Ziyi Wang (Penn State University) ; Robert Leicht (Penn State University)	Acadian
	09:15 AM to 09:30 AM	22	Capabilities of On-site Construction Robots from the Sense-Plan-Act Framework Fangxiao Li (Pennsylvania State University) ; John Messner (Pennsylvania State University); Robert Leicht (Pennsylvania State University)	
	09:30 AM to 09:45 AM	147	Bridging Distances: Exploring Teleoperation's Present and Prospects in the Construction Industry Marc Hebert (Louisiana State University); Aras Maqsoodi (Louisiana State University); Ali Kazemian (Louisiana State University)	
	09:45 AM to 10:00 AM	185	Construction Transformation Through Automation: Analyzing the Trends and Intersection of Industrialized Construction and 3D Concrete Printing Technologies vida babajaniniashirvani (Virginia Tech) ; Andrew McCoy (Virginia Tech); Akhileswar Yanamala (Virginia Tech)	
	10:00 AM to 10:15 AM	253	Developing a Systematic Planning Process for Robotics Implementation in Construction Nozomi Hirata (Penn State University) ; Zahra Ghorbani (Penn State University); Ziyi Wang (Penn State University); John Messner (Penn State University)	
	10:15 AM to 10:30 AM			

Track 7: Health and Safety Technologies Session Chair: Dr. Mahdi Ghafoori (Mississippi State University)	09:00 AM to 09:15 AM	239	Physiological Monitoring Systems and Wearable Sensing Devices for Construction Safety: Deployment Challenges and Research Roadmap Didong Xu (Texas A&M University) ; Gilles Albeaino (Texas A&M University)	Fulton
	09:15 AM to 09:30 AM	240	AI-Driven Text-Based Safety Applications in the Construction Industry: A Systematic Review xiao liang (Washington State University); hongtao Dang (Washington State University) ; yiye Xu (Central Washington University); Md Jewel Rana (Washington State University)	
	09:30 AM to 09:45 AM	75	LLM-Based Retrieval-Augmented Generation (RAG) Pipeline with Multi-Modal RGB-D Sensing Fusion and Deep Learning Computer Vision for Automated Monitoring, Scene Understanding, and Mitigation of Worker-Machinery Proximity Safety Issues on Construction Jobsites Xi Hu (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU); Harshit Singh (Edison Academy Magnet School); Ananya Choubey (Edison Academy Magnet School)	
	09:45 AM to 10:00 AM	256	Examining Heat Stress and Noise in Construction: A Reddit-Based Investigation of Workplace Challenges Yuting Chen (University of North Carolina at Charlotte) ; Tonmoy Hasan (The University of North Carolina at Charlotte); VGR Gil-Rivas (The University of North Carolina at Charlotte); Vishnu Prabhu (University of Central Florida); Yinghao Pan (The University of North Carolina at Charlotte)	
	10:00 AM to 10:15 AM	270	Digital Twin for Detecting Worker Geofence Violations in Road Construction Work Zones Woei-Chyi Chang (Purdue university); Xingchen Wang (Purdue University); Tianheng Zhu (Purdue University); Johnson D. Adetooto (Purdue University); Lu Su (Purdue University); Yiheng Feng (Purdue University); Esmaeili Behzad (Purdue University); Sogand Hasanzadeh (Purdue University)	
	10:15 AM to 10:30 AM	195	Advanced Vision-Based Digital Twin System for Monitoring Steelworkers to Prevent Heat Stress in Manufacturing Plants Salar Kamari (University of Southern Mississippi) ; Mahdi Ghafoori (Mississippi State University)	

Tuesday, May 13, 2025	**11:00 AM to 12:30 PM**			**Location**
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Houtan Jebelli (University of Illinois Urbana-Champaign)	11:00 AM to 11:15 AM	81	Predicting the Impact of Project Bundling Objectives under the Design Build (DB) Project Delivery Method Using Supervised Machine Learning Ghiwa Assaf (NJIT); Rayan Assaad (New Jersey Institute of Technology)	Pelican 1
	11:15 AM to 11:30 AM	79	Node Embeddings and Graph Representation Learning to Capture Structural and Semantic Information on Causal Relationships within Pre-Construction Delay Networks Ghadi Charbel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Tulio Rodriguez Tejada (NJIT); Fadi Karaa (NJIT); Mohamad Awada (NYU)	
	11:30 AM to 11:45 AM	360	Comparing Fully-Supervised and Zero-Shot Models for Semantic Segmentation of Building Materials Hao Xuan Zhang (The University of British Columbia) ; Zhengbo Zou (Columbia University)	
	11:45 AM to 12:00 PM	51	LLM-Driven Safe Robotic Navigation in Construction Site: A Prompt Engineering Approach with Terrain-Adaptive Path Planning Xiayu Zhao (UIUC); Tianyu Ren (UIUC); Houtan Jebelli (UIUC)	
	12:00 PM to 12:15 PM	224	Identifying Missing Bid Items in Transportation Construction Projects Using K-Nearest Neighbor Model Amir Hossein Oliaee (Texas A&M University) ; Ashrant Aryal (Texas A&M University); David Jeong (Texas A&M University)	
	12:15 PM to 12:30 PM	321	Bridging Nature and Architecture: Generative AI for Assessing Biophilic Design Attributes Hoda Alemrajabi (Virginia Tech) ; Ruichuan Zhang (Virginia Tech); Tanyel Bulbul (Virginia Tech); Xinghua Gao (Virginia Tech); Philip Agee (Virginia Tech)	
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Bita Astaneh Asl (California State University, East Bay)	11:00 AM to 11:15 AM	288	Record Modeling Specification and Process Considerations Bita Astaneh Asl (California State University, East Bay) ; Carrie Dossick (University of Washington)	Pelican 2
	11:15 AM to 11:30 AM	95	Comparative Analysis of Machine Learning Algorithms for Clash Relevance and Risk Level Prediction in BIM Design Coordination Samuel Oduro (Wayne State University); Hyun Jeong Koo (Wayne State University) ; Beatriz Guerra (University of Texas at Austin)	
	11:30 AM to 11:45 AM	168	Understanding User Requirements in LLM-Augmented BIM Systems: A TAM-Based Evaluation of NADIA-S Suhyung Jang (Yonsei University); Seokho Hyun (Yonsei University); Junghun Lee (Yonsei University); Ghang Lee (Yonsei University)	
	11:45 AM to 12:00 PM	401	Structural System Identification From Video Using Finite-Element Shape Functions Anthony LoRe Starleaf (Embry-Riddle Aeronautical University) ; David Mascarenas (Los Alamos National Laboratory); Siddharth Parida (Embry-Riddle Aeronautical University)	
	12:00 PM to 12:15 PM	374	Proposing a Resilience Score System for Flood-Prone Housing in Louisiana: A Preliminary Framework Osama Al-Maabreh (Louisiana State University); Anisha Deria (Louisiana State University); Yong-cheol Lee (Louisiana State University)	
	12:15 PM to 12:30 PM	194	Capital Projects Data Standards Landscape Sunjae Yoon (University of Texas at Austin) ; William O'Brien (University of Texas at Austin)	

Track	Time	#	Title and Authors	Room
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Lu Zhang (Virginia Tech)	11:00 AM to 11:15 AM	98	Harnessing Machine Learning for Improved Water Management: Towards Climate Change Adaptation Daniela Correa Caselles (University of Florida) ; Gabriel Castelblanco (University of Florida)	Poydras
	11:15 AM to 11:30 AM	377	Improving Multiclass Post-Earthquake Building Assessment by Integrating Satellite Imagery and Metadata with Transformers Deepank Singh (University of Houston) ; Hoskere Vedhus (University of Houston); Pietro Milillo (University of Houston)	
	11:30 AM to 11:45 AM	233	Zero-Shot Learning with Vision-Language Models for Estimating Building Energy Efficiency from Street View Images YUANDONG PAN (University of Cambridge) ; Linjun Lu (University of Cambridge); Mudan Wang (University of Cambridge); Varun Kumar Reja (University of Cambridge); Florian Noichl (Technical University of Munich); André Borrmann (Technical University of Munich); Ioannis Brilakis (University of Cambridge)	
	11:45 AM to 12:00 PM	63	Hybrid Dynamic Modeling of Sufficiency and Efficiency Interventions for Decarbonization of Embodied Emissions in Urban Stocks Radwa Eissa (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	12:00 PM to 12:15 PM	316	Public Infrastructure Service Disparities: Spatiotemporal Analysis of Solid Waste Service Requests during Hurricane Irma Yirong Ding (Myers-Lawson School of Construction, Virginia Tech); Lu Zhang (Myers-Lawson School of Construction, Virginia Tech) ; Yang Zhang (School of Public and International Affairs, Virginia Tech); Christopher W Zobel (Dept. of Business Information Technology, Virginia Tech)	
	12:15 PM to 12:30 PM	177	Optimizing Flood Prevention Infrastructure Placement in Southeast Texas: A Genetic Algorithm Approach for Resilient Planning Linchao Luo (University of Texas at Austin) ; Chih-Shen Cheng (University of Texas at Austin); Fernanda Leite (University of Texas at Austin)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Pedram Ghannad (Bradley University)	11:00 AM to 11:15 AM	199	Reinforcement Learning-based Motion Planning for Robotic Bricklaying in Construction Environments Mohsen Navazani (The University of Texas at San Antonio); Ao Du (The University of Texas at San Antonio); Jiannan Cai (The University of Texas at San Antonio)	Acadian
	11:15 AM to 11:30 AM	306	Systematic Risk Assessment and Quantification for Autonomous Robotic Construction on Mars Pedram Ghannad (bradley university) ; Saratu Terreno (Bradley University); Pooja Podduturi (Bradley University); Naila Mahaveen (Bradley University)	
	11:30 AM to 11:45 AM	11	Autonomous Navigation and Target Object Detection in Real-time Mobile Robotic Welding Systems Doyun Lee (Georgia Southern University) ; Kevin Han (NC State University)	
	11:45 AM to 12:00 PM	190	An Observation Feature Study of Robot Imitation Learning for Autonomous Social Navigation on Construction Sites Yilong Chen (Georgia Institute of Technology) ; Yu Du (Georgia Institute of Technology); Xiaoke Wang (Georgia Institute of Technology); Yong K. Cho (Georgia Institute of Technology)	
	12:00 PM to 12:15 PM	155	Proactive Quality Control for Robotics-Based Manufacturing of Industrialized Construction: A Case Study of Wood-Framed Construction Panels Vsevolod Kylyvnyk (University of Florida); Amirpooya Shirazi (University of Florida) ; Aladdin Alwisy (University of Florida)	
	12:15 PM to 12:30 PM	117	Integrating Large Language Models (LLMs) with Autonomous Aerial Drone Robotics and Computer Vision for Contextual Adaptive Construction Site Safety Management and Risk Assessment Oscar Poudel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU)	
Track 8: Technology-Enhanced Engineering Education and Training Session Chair: Dr. Rui Liu (University of Florida)	11:00 AM to 11:15 AM	345	Characteristics of a Digital Environment for Learning Human-Robot Collaboration in Construction: A Focus Group Study Ebenezer Olukanni (Virginia Tech); Abiola Akanmu (Virginia Tech) ; Houtan Jebelli (University of Illinois Urbana-Champaign); Ashtarout Ammar (Virginia Tech)	Fulton
	11:15 AM to 11:30 AM	346	A Conceptual Framework for Designing Learning Environments for Human-Robot Collaboration in Construction Ebenezer Olukanni (Virginia Tech); Abiola Akanmu (Virginia Tech) ; Houtan Jebelli (University of Illinois Urbana-Champaign); Ashtarout Ammar (Virginia Tech)	
	11:30 AM to 11:45 AM	158	Impact of Different Levels of Automation on Student Learning Outcomes in Construction Estimating Lufan Wang (Florida International University) ; Rui Liu (University of Florida)	
	11:45 AM to 12:00 PM	406	Information Systems Curriculum Evolution in Construction Management Education Education Raja Issa (University of Florida) ; Feral Foskett (University of Florida); Chady Elias (University of Florida)	
	12:00 PM to 12:15 PM	44	Investigating the Role of Haptic Feedback in Enhancing Immersive Exoskeleton Training in Construction Yuming Zhang (UIUC); Amit Ojha (UIUC); Shayan Shayesteh (UIUC); Houtan Jebelli (UIUC)	
	12:15 PM to 12:30 PM	132	Examining The Role of Virtual Reality in Construction Robotics Learning: Insights on Realism, Presence, and Simulation Sickness Amit Ojha (UIUC); Yuming Zhang (UIUC); Shayan Shayesteh (UIUC); Houtan Jebelli (UIUC) ; Abiola Akanmu (VT)	

Tuesday, May 13, 2025	02:00 PM to 3:30 PM			Location
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Yanyu Wang (Louisiana State University)	02:00 PM to 02:15 PM	120	Estimating Performance and Payment Bond Premiums in Construction Projects Using Machine Learning Yasser Jezzini (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU)	Pelican 1
	02:15 PM to 02:30 PM	112	Enhancing Railway Safety: A Machine Learning Approach for Automated Detection of Missing Track Bolts Aayush Damai (Marshall University); Hwapyeong Song (Marshall University); Husnu Narman (Marshall University) ; Alexander Lambert (Marshall University); Ammar Alzarrad (Marshall University)	
	02:30 PM to 02:45 PM	323	Using Large Language Models for Systematic Failure Model Identification in Levee Infrastructure Aggrey Muhebwa (Stanford University) ; Khalid Osman (Stanford University)	
	02:45 PM to 03:00 PM	320	Leveraging Large Language Models for Voice-Activated Robotic Teleoperation in Construction gongfan Chen (North Carolina State University); Yizhi Liu (Syracuse University)	
	03:00 PM to 03:15 PM	76	Hierarchical Vision Transformers-based Deep Learning Architecture, RGB-D Sensing Fusion, and Multimodal LLM-Based Generative AI Pipeline for Automated Pavement Pothole Segmentation, Quantification, and Repair Recommendation Xi Hu (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU); Thomas Catuosco (Edison Academy Magnet School)	
	03:15 PM to 03:30 PM	105	Sequence to Sequence Models for 4D Trajectory Prediction of Tower Crane Loads Mohammad Hossein Kazemi (The Pennsylvania State University); Yuqing Hu (The Pennsylvania State University) ; Yi Wu (The Pennsylvania State University); John Messner (The Pennsylvania State University); Scarlett Miller (The Pennsylvania State University)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Mohammad Ilbeigi (Stevens Institute of Technology)	02:00 PM to 02:15 PM	19	A New Simple HVAC Energy Performance Metric: Climate and Occupant Preference-Adjusted Wooyoung Jung (The University of Arizona) ; Yunjeong Mo (Iowa State University); Sophia Witt (The University of Arizona)	Poydras
	02:15 PM to 02:30 PM	8	Exploring the Impact of Green Walls on Indoor Humidity and Temperature across Different Environmental Conditions Alireza Sedghikhanshir (Louisiana State University) ; Yimin Zhu (Louisiana State University); Yan Chen (Louisiana State University); Arup Bhattacharya (Louisiana State University)	
	02:30 PM to 02:45 PM	20	Indoor Heat Strain Early Detection using Heart Rate Variability Prosper Babon-Ayeng (University of Arizona); Wooyoung Jung (The University of Arizona)	
	02:45 PM to 03:00 PM	68	Designing Hybrid Power Grid Networks for Equitable Access to Electricity Niousha Talebpour (Stevens Institute of Technology); Mohammad Ilbeigi (Stevens Institute of Technology)	
	03:00 PM to 03:15 PM	181	3D Printed Green Wall: Enhancing Living Systems Through Digital Fabrication Mona Kazemian (Iowa State University) ; Carl Rogers (Iowa State University)	
	03:15 PM to 03:30 PM	104	Affordable and accessible system reliability tools for developing countries: A capacity building exercise in the Philippines Ahsana Parammal Vatteri (University College London) ; Ji-Eun Byun (University of Glasgow); Siau Chen Chian (National University of Singapore); Dexter Sumaylo Lo (Xavier University - Ateneo de Cagayan); Dina D'Ayala (University College London)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Jiannan Cai (The University of Texas at San Antonio)	02:00 PM to 02:15 PM	69	Exploring the feasibility of integrating and using an excavator arm on a quadruped robot Thanatat Thanaravisara (Los Alamos National Laboratory); Davis Mascareñas (Los Alamos National Laboratory)	Acadian
	02:15 PM to 02:30 PM	144	Planetary Robotic Construction on the Moon and Mars Using Waterless Sulfur-Regolith Printing Materials Kasra Banijamali (Louisiana State University); Ilerioluwa Giwa (Louisiana State University); Michael Fiske (Amentum Space Exploration Group); Ali Kazemian (Louisiana State University)	
	02:30 PM to 02:45 PM	187	Active Robot Vision with Perception-Aware Navigation for Worker Monitoring Chaewon Yang (Seoul National University) ; Jinsik Park (Seoul National University); Moonseo Park (Seoul National University); Changbum R. Ahn (Seoul National University)	
	02:45 PM to 03:00 PM	47	Dynamic Robotic Control Strategies for UAV Stability with Rotatory Payload Tianyu Ren (UIUC); Xiayu Zhao (UIUC); Houtan Jebelli (UIUC)	
	03:00 PM to 03:15 PM	183	Self-supervised Learning with LiDAR-Camera Fusion for Construction Site Traversability Estimation Jinhee Yu (Mississippi State University) ; Monika Jayakumar (Mississippi State University); Yilong Chen (Georgia Institute of Technology); Yong Cho (Georgia Institute of Technology); Jingdao Chen (Mississippi State University)	
	03:15 PM to 03:30 PM	106	Physical Fatigue and Performance Patterns Between Men and Women Workers during Teleoperation Tasks Usman Rasheed (The University of Texas at San Antonio); Xiaoyun Liang (The University of Texas at San Antonio); Yuqing Hu (Pennsylvania State University); Scarlett Miller (Pennsylvania State University); Shuai Li (University of Florida); Jiannan Cai (The University of Texas at San Antonio)	

Track 7: Health and Safety Technologies Session Chair: Dr. Reza Akhavian (San Diego State University)	02:00 PM to 02:15 PM	370	The Benefit of Implementing Safety Management Systems: A Comparative Study Farshid Taherpour (University of Kentucky) ; Gabriel Dadi (University of Kentucky); Roy Sturgill (Iowa State University); Arun Subedi (University of Kentucky)	Pelican 2
	02:15 PM to 02:30 PM	45	LLM-Powered Personalized Feedback System for Local Muscular Fatigue Monitoring Using Electromyography During Exoskeleton-Assisted Construction Material Handling Yogesh Gautam (UIUC); Mahmoud Habibnezhad (LSU); Yizhi Liu (Syracuse University); Houtan Jebelli (UIUC)	
	02:30 PM to 02:45 PM	230	Artificial Intelligence and BIM in Construction Safety: Current Trends and Future Directions ELVIS ADJEI (Colorado State University) ; Ziyu Jin (Colorado State University)	
	02:45 PM to 03:00 PM	50	Digital Twin Wildfire Suppression: Enhancing Fire Spread Estimation via Transformer-Based Optical Flow Algorithms Yusen Su (Georgia Tech); Neda Mohammadi (Georgia Tech); John Taylor (Georgia Tech)	
	03:00 PM to 03:15 PM	335	Advancing Hand-Arm Vibration Safety Monitoring: ISO-Compliance with Wearable Sensors and Transfer Functions Johannes Mootz (San Diego State University); Reza Akhavian (San Diego State University)	
	03:15 PM to 03:30 PM	110	Maximum Pressure Gradient based Fall Risk Comparison of Passive and Active Back-Support Exoskeletons Abosede Akanmu (Virginia Tech) ; Ashtarout Ammar (Virginia Tech); Houtan Jebelli (University of Illinois Urbana-Champaign)	
Track 8: Technology-Enhanced Engineering Education and Training Session Chair: Dr. Houtan Jebelli (University of Illinois Urbana-Champaign)	02:00 PM to 02:15 PM	88	Virtual and Augmented Reality in Building Science and Technology Education: A Review Framework. Wooyoung Jung (The University of Arizona) ; Kwonsik Song (Purdue University)	Fulton
	02:15 PM to 02:30 PM	42	Investigating the Impact of Virtual Reality Training on Cognitive Load in Worker-Unmanned Ground Vehicle Interactions in Construction Yuming Zhang (UIUC); Houtan Jebelli (UIUC)	
	02:30 PM to 02:45 PM	226	Future-Ready Workforce Development: Integrating Computational Thinking into Construction Education Using Virtual Reality Hameed Gucci (Louisiana State University) ; Jonnaton Morse (Louisiana State University); Amirhosein Jafari (Louisiana State University); Andrew Webb (Louisiana State University); Jennifer Qian (Louisiana State University); Shinhee Jeong (Louisiana State University); Yimin Zhu (Louisiana State University); Suniti Karunatillake (Louisiana State University)	
	02:45 PM to 03:00 PM	188	The Impact of Collaborative Generative Learning Activities in Virtual Reality Safety Training Dong Ding (Seoul National University) ; Myeongjun Kim (Seoul National University); Moonseo Park (Seoul National University); Changbum R. Ahn (Seoul National University)	
	03:00 PM to 03:15 PM	330	Prevention through Design in Construction Education: An Andragogical Analysis of Learning Profiles for Technology Integration Farouq Sammour (Texas A&M University) ; Zhenyu Zhang (Texas A&M University)	
	03:15 PM to 03:30 PM	234	Empowering Senior AEC Students: A Real-Time, LLM-Driven Tool for Technical Writing Feedback Zhenlin Yang (University of Florida) ; Gabriel Castelblanco (University of Florida); Laura Cruz-Castro (University of Florida)	
Tuesday, May 13, 2025	**04:00 PM to 05:15 PM**			**Location**
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Ruichuan Zhang (Virginia Tech.)	04:00 PM to 04:15 PM	100	Challenges in Managing Noisy Labels in Crowdsourced Construction Image Datasets SeyedeZahra Golazad (University of Utah) ; Abbas Rashidi (University of Utah)	Pelican 1
	04:15 PM to 04:30 PM	225	Wall-layer Segmentation in Floor Plans for Energy Retrofit Planning Phillip Schönfelder (Ruhr University Bochum) ; Marc Brauksiepe (Ruhr University Bochum); Markus König (Ruhr University Bochum)	
	04:30 PM to 04:45 PM	212	Towards an Automated Method for Detecting and Quantifying Window Air Leakage Hamed Khaleghi (University of Illinois Chicago College of Engineering) ; Shuaiang Rong (University of Illinois Chicago College of Engineering); Emadeldeen Hamdan (University of Illinois Chicago College of Engineering); Yu Hou (Western New England University); Lucio Soibelman (University of Southern California); Ahmet Enis Cetin (University of Illinois Chicago College of Engineering); Aslihan Karatas (University of Illinois Chicago College of Engineering)	
	04:45 PM to 05:00 PM	134	Exploration and Refinement: A Dual-Diffusion Approach for Multi-Occupancy Floor Plan Generation Haolan Zhang (Virginia Polytechnic Institute and State University) ; Ruichuan Zhang (Virginia Polytechnic Institute and State University)	
	05:00 PM to 05:15 PM	176	Automated window opening segmentation and levelness measurement Yuxiang Huang (University of Illinois at Urbana-Champaign) ; Nora El-Gohary (University of Illinois at Urbana-Champaign)	

Track	Time	#	Title / Authors	Room
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Robert Amor (University of Auckland)	04:00 PM to 04:15 PM	238	AI Approaches to a Question Answering System for a National Code Dean Phommahaxay (University of Auckland); Michael Theron (University of Auckland); Robert Amor (University of Auckland)	Poydras
	04:15 PM to 04:30 PM	78	Career Mobility in Construction Leadership: Insights from LinkedIn Recommendations and data-driven Analysis Ali Mansouri (Michigan Technological University); Abdolmajid Erfani (Michigan Technological University)	
	04:30 PM to 04:45 PM	140	A Human-Building Interaction System for Feedback Curation and Predictive Modeling in Occupant-Centric Indoor Environments Min Jae Lee (Virginia Tech) ; Amy Ferrufino-Gallardo (Virginia Tech); Ruichuan Zhang (Virginia Tech)	
	04:45 PM to 05:00 PM	72	Seeing with Partial Certainty: Conformal Prediction for Robotic Scene Recognition in Built Environments Yifan Xu (University of Michigan) ; Vineet Kamat (Unversity of Michigan); Carol Menassa (University of Michigan)	
	05:00 PM to 05:15 PM	398	Leveraging Large Language Models (LLM) and Machine Learning for Extracting Conditions that Impact Safety Rating of Building Façades Beyza Kiper (New York University) ; Weilai Xu (New York University); Nilay Dey (New York University); Semiha Ergan (New York University)	
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Mudan Wang (University of Cambridge)	04:00 PM to 04:15 PM	322	Framework for BIM-to-Asset Data Integration in Digital Twins Jaehyun Park (Bechtel Corporation)	Pelican2
	04:15 PM to 04:30 PM	375	Automating Flood Resilience Validation in Residential Buildings: A BIM-Based Framework for Enhanced Compliance Osama Al-Maabreh (Louisiana State University); Yongcheol Lee (Louisiana State University)	
	04:30 PM to 04:45 PM	310	Digital Twin for Sustainable Hospitality Facilities Management: A Review and Empirical Investigation Tsz Kwan Chan (University of Cambridge) ; Mudan Wang (University of Cambridge); Ioannis Brilakis (University of Cambridge); Natalie Man Yi Ip (Duke University)	
	04:45 PM to 05:00 PM	334	AI-BIM-Driven Sustainable Architectural Design: A Systematic Literature Review Syarifah Al Athas (University of Florida) ; Nawari Nawari (University of Florida)	
	05:00 PM to 05:15 PM	352	Integrated Multi-Dimensional Building Information Modelling platform (I-BIM) for modular and sustainable construction mona afifi (Florida Gulf Coast University); Ahmed Fotouh (ACUREN Inc); Abdallah Shokry (Fayoum University)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Mohammad Ilbeigi (Stevens Institute of Technology)	04:00 PM to 04:15 PM	121	Process-Technology Framework for Carbon Accounting in the Construction Sector Alberto Pozzer (University of Texas at Austin) ; Christopher Rausch (University of Texas at Austin); Fernanda Leite (University of Texas at Austin)	Fulton
	04:15 PM to 04:30 PM	66	Multi-Level Disruption Detection in Road Networks Using LSTM and MCUSUM: A Case Study of Hurricane Sandy Hojat Behrooz (Stevens Institute of Technology); Mohammad Ilbeigi (Stevens Institute of Technology)	
	04:30 PM to 04:45 PM	60	Examining Interconnected Decision-Making Factors for Circular Economy Integration in Construction Bahaa Chammout (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	04:45 PM to 05:00 PM	97	Evaluating a workshop model to teach innovative housing methods to university construction students: The case of Construction for Disassembly (CfD), as an affordable concept Tina Farivar (Virginia Tech University) ; Andrew McCoy (Virginia Tech University); Josh Iorio (Virginia Tech University); Alireza Shojaei kol kachi (Virginia Tech University); Bahareh Nejati (Virginia Tech University); Vida Babajaniniashirvani (Virginia Tech University)	
	05:00 PM to 05:15 PM	38	Wind Resilience in Louisiana: A Social Equity Approach to Enhanced Building Code Practices Ayat Al Assi (Louisiana State University Agriculture Center); Fuad Hasan (Louisiana State University Agriculture Center); Rubayet Bin Mostafiz (Louisiana State University Agriculture Center); Md Adilur Rahim (Louisiana State University Agriculture Center); Kevin Smiley (Louisiana state university); Carol J. Friedland (Louisiana State University Agriculture Center)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Yizhi Liu (Syracuse University)	04:00 PM to 04:15 PM	281	Enhancing the Worker-Robot Interaction for Construction Task Operation: A Preliminary Study Using Large Language Model-based Methods Vedant Mapare (Syracuse University); Yizhi Liu (Syracuse University) ; Dong Zheng (Syracuse University); Gongfan Chen (North Carolina State University)	Acadian
	04:15 PM to 04:30 PM	169	A Teacher-Student Learning Approach to Improve Quadruped Robot's Autonomous Locomotion and Obstacle Avoidance on Construction Site Qi Yin (Colorado School of Mines); Yang Ye (Northeastern University); Meida Chen (University of Southern California); Yangming Shi (Colorado School of Mines)	
	04:30 PM to 04:45 PM	118	SLAM assisted Transformers-Based TD3 Deep Reinforcement Learning for Adaptive Navigation and Mapping and Dynamic Obstacle Avoidance in Autonomous Construction Robotics Oscar Poudel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU)	
	04:45 PM to 05:00 PM	311	Teleoperation of Construction Robots Using Human Interaction: Case Study Examples Xin Wang (National Renewable Energy Laboratory) ; Naveen Kumar Muthumanickam (National Renewable Energy Laboratory); Zhenhua Zhu (University of Wisconsin-Madison); Shanti Pless (National Renewable Energy Laboratory)	
	05:00 PM to 05:15 PM			

Wednesday, May 14, 2025	09:00 AM to 10:00 AM			Location
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Niping Duan (University of Maryland, College Park)	09:00 AM to 09:15 AM	77	Modeling the Causal Relationships between Pre-Construction Delay Risks Using Graph Neural Networks Ghadi Charbel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Tulio Rodriguez Tejada (NJIT); Fadi Karaa (NJIT); Mohamad Awada (NYU)	Pelican 1
	09:15 AM to 09:30 AM	198	Cognitive Digital Twins: Integrating Deep Learning Models for Proactive Facilities Management in Smart Buildings Raja Issa (University of Florida) ; Chady Elias (Unievrsity of Florida)	
	09:30 AM to 09:45 AM	180	Proactive Urban Traffic Safety: Integrating Bayesian Risk Assessment and Reinforcement Learning for Intelligent Urban Infrastructure Niping Duan (University of Maryland, College Park) ; Qingbin Cui (University of Maryland, College Park)	
	09:45 AM to 10:00 AM			
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Yimin Zhu (Louisiana State University)	09:00 AM to 09:15 AM	170	BIM and 360-Degree Camera Data Registration Using Fiducial Markers Shitikantha Bagh (North Carolina State University) ; Jeongbin Hwang (North Carolina State University); Kevin Han (North Carolina State University)	Pelican 2
	09:15 AM to 09:30 AM	153	Segment Anything Model for Point Cloud Temporal Change Detection on Construction Sites Jeffrey Rugg (Mississippi State University); Seongyong Kim (Georgia Institute of Technology); Yong Cho (Georgia Institute of Technology); Jingdao Chen (Mississippi State University)	
	09:30 AM to 09:45 AM	33	Enhancing BIM-based Decision-Making for Energy-Efficient Modernization and Refurbishment of Existing Buildings Daniel Napps (Ruhr University Bochum) ; Dominik Lehmann (Ruhr University Bochum); Alexander Maryniak (Ruhr University Bochum); Markus König (Ruhr University Bochum)	
	09:45 AM to 10:00 AM	202	Enhancing Airport Design Process Through the Critical Role of BIM Adoption Gulbin Ozcan-Deniz (Thomas Jefferson University) ; Beliz Ozorhon (Bogazici University); Kris Sercan Gurunlu (Arcadis)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Islam El-adaway (Missouri University of Science and Technology)	09:00 AM to 09:15 AM	55	Analyzing the Transportation Sector's Safety Incidents: Insights from a Hierarchical Multi-Factor Regression Model Mariam Elazhary (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	Fulton
	09:15 AM to 09:30 AM	227	Bayesian-Based Stochastic Model for Integrating Occupancy and Building Characteristics in Residential Energy Vulnerability Analysis Chen Xia (Western New England University) ; Yuqing Hu (The Pennsylvania State University); Harshavardhan Balasaheb Pawar (Western New England University)	
	09:30 AM to 09:45 AM	35	Digital tools in circular construction supply chains Paula Lopez Alvarez de Neyra (University of Colorado Boulder) ; Amelia Celoza (University of Colorado Boulder)	
	09:45 AM to 10:00 AM	263	Modeling the Compound Effects of Flood Hazard and Malicious Attacks on Crowd Management in Surface Transportation Facilities Yitong Li (Rutgers University); Yifan Wang (Rutgers University); shengyuan Feng (Rutgers University); jie gong (Rutgers)	
Track 5: Human-Centered Innovations and Human-Technology Frontier Session Chair: Dr. Ali Ghahramani (National University of Singapore)	09:00 AM to 09:15 AM	228	Exposure Window Size Exploration: Linking Indoor Air Quality to Fatigue in Office Environments Tao Zang (University of Southern California) ; Mohamad Awada (New York University); Burcin Becerik-Gerber (University of Southern California)	Poydras
	09:15 AM to 09:30 AM	205	Identifying and Understanding Eye Movement Patterns during Teleoperated Lunar Construction Tasks Miran Seo (Texas A&M) ; Minguk Kim (Texas A&M); Youngjib Ham (Seoul National University)	
	09:30 AM to 09:45 AM	211	Addressing Limitations of Widely Used Machine Learning Algorithms in Predicting Preferred Temperature Setpoints with Adaptive Algorithms Kai Chen (National University of Singapore); Ali Ghahramani (National University of Singapore)	
	09:45 AM to 10:00 AM	116	Visio-GEN: A Wireless Gaze-Assisted and Voice-Controlled Generative AI System Leveraging Stable Diffusion for Real-Time Image Generation for Civil Engineering Design and Visualization Oscar Poudel (NJIT); Rayan Assaad (New Jersey Institute of Technology) ; Mohamad Awada (NYU)	
Track 6: Robotics and Automation in Construction Session Chair: Dr. Mahmoud Habibnezhad (Louisiana State University)	09:00 AM to 09:15 AM	48	Hybrid UAV-UGV System with Interchangeable Ground Modules for Multi-Terrain Construction Sites Inspection Xiayu Zhao (UIUC); Yizhi Liu (Syracuse University); Houtan Jebelli (UIUC)	Acadian
	09:15 AM to 09:30 AM	336	A Quadruped High-level Control Module for Worker Activity Recognition Robert Ashe (San Diego State University); Mani Amani (San Diego State University); Conner Sommerfield (San Diego State University); Reza Akhavian (San Diego State University)	
	09:30 AM to 09:45 AM	209	Human-Robot Interaction in AEC Industry: A Review of Augmented and Mixed Reality Applications Abir Khan Ratul (University of Texas at Arlington); Sanjay Acharjee (University of Texas at Arlington); Ci-Jyun Liang (Stony Brook University); Md Nazmus Sakib (University of Texas at Arlington)	
	09:45 AM to 10:00 AM	159	Teleoperation of Semi-Humanoid for Construction with Underactuated Dexterous Hand Xiao Hu (Northeastern University); Yangming Shi (Colorado School of Mines); Yang Ye (https://www.northeastern.edu/)	

Wednesday, May 14, 2025	10:30 AM to 12:00 PM			Location
Track 1: Artificial Intelligence in Construction and Infrastructure Session Chair: Dr. Yelda Turkan (Oregon State University)	10:30 AM to 10:45 AM	125	Large Language Models for BIM-Based Generative Design of Structural Models Sam Yeroushalmi (Virginia Tech); Ruichuan Zhang (Virginia Tech)	Pelican 1
	10:45 AM to 11:00 AM	278	Interpretable Artificial Intelligence in Crane Accident Cause Analysis using Shapely Additive Explanations Deokyeong Kim (Concordia University) ; Leila Kosseim (Concordia University); Jong Won Ma (Concordia University)	
	11:00 AM to 11:15 AM	56	Prediction of Construction Material Prices Using Recurrent Neural Networks and Ensemble Batch Intervals Ahmed Shiha (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	11:15 AM to 11:30 AM	113	Toward Improved Surface Defect Segmentation in Concrete Structures: Enhancing U-Net for Multi-Class Segmentation Donghoon Ji (Oregon State University); Yelda Turkan (Oregon State University)	
	11:30 AM to 11:45 AM	57	Forecasting Regional Disparities in Construction Labor Earnings Using Long Short-term Memory (LSTM) Ahmed Shiha (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
	11:45 AM to 12:00 PM	59	Integrating Machine Learning and Reference Class Forecasting for Construction Risk Contingency Prediction Fareed Salih (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	
Track 2: BIM and Digital Twin Technologies Session Chair: Dr. Jiabin Wu (Technical University of Munich – TUM)	10:30 AM to 10:45 AM	135	The Beginning, Not the End: Revisiting Automated Compliance Checking for BIM-based Design Adaptation Jiabin Wu (TUM) ; Stefan Fuchs (TUM); Tanya Bloch (Technion – Israel Institute of Technology,); André Borrmann (TUM)	Pelican 2
	10:45 AM to 11:00 AM	7	Bridging the Gap: Integrating Building Information Models into Early-Lifecycle Digital Twins Using Semantic Information Containers Simon Kosse (Ruhr University Bochum) ; Sven Zentgraf (Ruhr University Bochum); Philipp Hagedorn (Ruhr University Bochum); Markus König (Ruhr-Universität Bochum)	
	11:00 AM to 11:15 AM	163	Ontology-Driven Automation for BIM-FM Data Integration Using Neo4j, Python, and Workflow Platforms Chien-Pu Huang (National Taiwan University) ; Shang-Hsien Hsieh (National Taiwan University)	
	11:15 AM to 11:30 AM	124	Automating 3D As-built BIM with Deep Learning and Knowledge-Driven Graphs Kexin Li (National University of Singapore); Vincent J.L. Gan (National University of Singapore) ; Mingkai Li (National University of Singapore)	
	11:30 AM to 11:45 AM	64	Investigating Infrastructure Failure from a Behavioral Ethics Perspective: A Multi-Attribute Network Analysis Approach Tamima Elbashbishy (Missouri University of Science and Technology); Radwa Eissa (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology) ; Jeffrey Russell (University of Wisconsin-Madison)	
	11:45 AM to 12:00 PM	407	Measuring Text-based Task Similarity to Enable Personalized Learning in Modular Construction: A Case Study in HVAC Product Manufacturing Joonsun Hwang (Carnegie Mellon University) ; Kahyun Jeon (Carnegie Mellon University); Pingbo Tang (Carnegie Mellon University)	
Track 4: Sustainable and Resilient Infrastructure Systems Session Chair: Dr. Lingzi Wu (University of Washington)	10:30 AM to 10:45 AM	65	A Graph-Based Adaptive Routing Optimization Algorithm for Emergency Evacuations Hojat Behrooz (Stevens Institute of Technology); Mohammad Ilbeigi (Stevens Institute of Technology)	Poydras
	10:45 AM to 11:00 AM	34	Development of a semantic knowledge base for the use of geotextiles in a circular economy Jonas Maibaum (Chair of Computing in Engineering, Ruhr University Bochum) ; Philipp Hagedorn (Chair of Computing in Engineering, Ruhr University Bochum)	
	11:00 AM to 11:15 AM	315	COMFORT-SENSE: An IoT-Enabled Smart Desk Hub for Personalized Environmental Control and Climate Intelligence Mohammad Sadequl Islam (Louisiana State University) ; Seddigheh Norouziasl (Louisiana State University); Amirhosein Jafari (Louisiana State University)	
	11:15 AM to 11:30 AM	245	Analyzing Public Electric Vehicle Charging Distribution and Urban Socio-spatial Characteristics Using Geographically Weighted Machine Learning Shiqi Ding (University of Washington); Lingzi Wu (University of Washington)	
	11:30 AM to 11:45 AM	28	Multi-Label Classification Framework for Hurricane Damage Assessment Zhangding Liu (Georgia Tech); Neda Mohammadi (Georgia Tech); John Taylor (Georgia Tech)	
	11:45 AM to 12:00 PM	27	Unequal underestimation of emergency medical service accessibility under urban flood impacts Xiyu Pan (Georgia Tech); Neda Mohammadi (Georgia Tech); John Taylor (Georgia Tech)	

Track 6: Robotics and Automation in Construction Session Chair: Woei-Chyi Chang (Purdue University)	10:30 AM to 10:45 AM	54	Advancing Infrastructure Management Through a Structural and Confirmatory Multivariate Analysis of Digital Innovation Mariam Elazhary (Missouri University of Science and Technology); Islam El-adaway (Missouri University of Science and Technology)	Acadian
	10:45 AM to 11:00 AM	269	Parametric Teleoperation of a Mobile Robot for Placing Printing Supports in 3D Printed Walls Jorge Rojas (Purdue University); Sogand Hasanzadeh (Purdue University)	
	11:00 AM to 11:15 AM	93	Towards Intelligent Facility Management: Autonomous Robotic Sensing For Enhanced Indoor Environmental Quality Nariman Razavi (Louisiana State University) ; Amirhosein Jafari (Louisiana State University)	
	11:15 AM to 11:30 AM	283	An Ontology Approach to Context-Aware Robotics for Automated Underwater Bridge Maintenance Saeed Talamkhani (Stevens Institute of Technology) ; Yangming Shi (Colorado School of Mines); Kaijian Liu (Stevens Institute of Technology)	
	11:30 AM to 11:45 AM	46	Advanced Gimbal Stabilization Techniques for UAVs in High-Precision Construction Tasks Tianyu Ren (UIUC); Houtan Jebelli (UIUC)	
	11:45 AM to 12:00 PM	150	Screw-Propelled Front Loader Nicholas Gulde (Texas A&M); Tucker Mavis (Texas A&M); Cody Miller (Texas A&M); Connor Turman (Texas A&M); David Mascarenas (Los Alamos National Laboratory)	
Track 7: Health and Safety Technologies Session Chair: Dr. Namgyun Kim (Texas A&M University)	10:30 AM to 10:45 AM	133	Identifying and categorizing safety risk factors causing vehicle intrusions in work zones Muhammad Hasnain (Rinker School of Construction Management, University of Florida) ; Rui Liu (Rinker School of Construction Management, University of Florida); Idris Jeelani (Rinker School of Construction Management, University of Florida)	Fulton
	10:45 AM to 11:00 AM	216	Data-Driven Safety: Leveraging Historical Accident Data and Generative AI to Generate Workplace Hazard Scenarios Sanjay Acharjee (University of Texas at Arlington); Abir Khan Ratul (University of Texas at Arlington); Diego Patiño (University of Texas at Arlington); Md Nazmus Sakib (University of Texas at Arlington)	
	11:00 AM to 11:15 AM	43	Silver Nanoparticle modified Flexible EMG Sensor for Reduced Motion Artifacts during Dynamic Construction Environments Yogesh Gautam (UIUC); Houtan Jebelli (UIUC)	
	11:15 AM to 11:30 AM	166	Large Language Model-Assisted Large-Scale Construction Safety Data Visualization and Fault Tree Generation with Improved Prompting Strategies Kayla Geissler (Virginia Tech); Hongrui Yu (Virginia Tech)	
	11:30 AM to 11:45 AM	415	The Impact of Low-Quality Accident Reports on the Performance of Construction Safety AI Models Namgyun Kim (Texas A&M University) ; Jaehoon Lee (Texas A&M University); Taewoo Ko (Kookmin University); Kuan-Hao Huang (Texas A&M University); JeeWoong Park (University of Nevada, Las Vegas)	
	11:45 AM to 12:00 PM	85	Worker Perception and Physiological Responses to Heat Stress Prevention and Control Interventions in Construction Mehdi Torbat Esfahani (The University of Texas at San Antonio); Roy Lan (The University of Texas at San Antonio); Ibukun Awolusi (The University of Texas at San Antonio) ; Susan Taah (Athletic Training Solutions)	